

IN THE CLAIMS:

1 1. (Currently Amended) A production system including a production line being a
2 series of a plurality of pieces of production equipment each of which has a parts supply unit, the
3 production system comprising:

4 an NC management apparatus that is connected with each piece of the production
5 equipment via a local-area network and acquires and stores therefrom NC data used for operating
6 each piece of the production equipment; and

7 a scheduling apparatus that generates a production schedule from inputted
8 production design data and transmits ~~the~~ a generated production schedule to the NC management
9 apparatus via the local-area network, wherein

10 the NC management apparatus generates, for each piece of the production
11 equipment, NC data including production parameters for each piece of production equipment
12 that is required to perform production according to the production schedule, and obtains, for each
13 piece of the production equipment, differences between ~~current~~ stored NC data that ~~has~~ had been
14 ~~acquired~~ the most recently stored prior to the generated NC data and the generated NC data from
15 the production schedule, and outputs the obtained differences.

1 2. (Currently Amended) A production system including a production line being a
2 series of a plurality of pieces of production equipment each of which has a parts supply unit, the
3 production system comprising:

4 a LAN port that conducts on-line communications with a scheduling apparatus
5 and each piece of the production equipment via a local-area network;

6 a memory unit for storing NC data of prior production schedules including
7 production parameters for each piece of production equipment;

8 a production schedule acquiring means for acquiring a production schedule, for
9 operating the pieces of production equipment to provide an output of production items from the
10 production line, from the scheduling apparatus;

11 an NC data acquiring means for acquiring NC data used for operating each piece
12 of the production equipment from the acquired production schedule; and

13 a difference obtaining means for obtaining, in terms of each production parameter
14 for each piece of the production equipment, differences between the acquired production
15 schedule of NC data and ~~currently held~~ stored NC data of the same type of items.

1 3. (Currently Amended) The production system of Claim 2, wherein
2 the production schedule is generated for each version of each production item,
3 each production schedule showing a version of a production item,

4 the NC data acquiring means acquires NC data of a version of a production item
5 to be made, and

6 the difference obtaining means obtains differences between the production
7 schedule of NC data and ~~currently held~~ stored NC data, in terms of each production parameter of
8 a version of the same type of items of the ~~currently held~~ stored NC data.

1 4. (Original) The production system of Claim 3 including a plurality of production
2 lines each of which is used to mount parts onto a circuit board, and

3 each production parameter includes a production line ID, a production equipment
4 ID, an effective date, a parts number ID, and an update date.

1 5. (Original) The production system of Claim 4 further comprising a display means
2 that displays the differences obtained by the difference obtaining means.

1 6. (Currently Amended) The production system of Claim 5, wherein
2 the generated NC data contains an NC program showing a parts mounting
3 position, a parts arrangement program, a board program, and a parts library showing conditions
4 for mounting parts.

1 7-9. (Cancelled)

1 10. (Currently Amended) An NC data management method for use in a production
2 system including a production line being a series of a plurality of pieces of production equipment
3 each of which has a parts supply unit and means for storing NC data of items previously
4 produced on the production line including production parameters for each piece of production
5 equipment, the NC data management method comprising:

6 a production schedule acquiring step for acquiring a production schedule, for
7 operating the pieces of production equipment to provide an output of production items from the
8 production line, from a scheduling apparatus;

9 an NC data acquiring step for acquiring NC data used for operating each piece of
10 the production equipment from the acquired production schedule including production
11 parameters for each piece of production equipment; and

12 a difference obtaining step for obtaining, in terms of each production parameter
13 for each piece of the production equipment, differences between the acquired production
14 schedule of NC data and ~~currently held~~ stored NC data of the same type of items.

1 11. (Currently Amended) The NC data management method of Claim 10, wherein
2 the production schedule is generated for each version of each production item,
3 each production schedule showing a version of a production item,
4 the NC data acquiring step acquires NC data of a version of a production item to
5 be made, and
6 the difference obtaining step obtains differences between the production schedule
7 of NC data and ~~currently held~~ stored NC data, in terms of each production parameter of a version
8 of the same type of items of the ~~currently held~~ stored NC data.

1 12. (Original) The NC data management method of Claim 11, wherein
2 the production line is used to mount parts onto a circuit board, and
3 each production parameter includes a production line ID, a production equipment
4 ID, an effective date, a parts number ID, and an update date.

1 13. (Original) The NC data management method of Claim 12 further comprising a
2 display step that displays the differences obtained by the difference obtaining step.

1 14. (Currently Amended) The NC data management method of Claim 13, wherein
2 the generated NC data contains an NC program showing a parts mounting
3 position, a parts arrangement program, a board program, and a parts library showing conditions
4 for mounting parts.

1 15-17. (Cancelled)

1 18. (New) A production system for improving the productivity of a production line
2 providing production runs of electronic items of various types with related parts having a
3 plurality of pieces of equipment for mounting individual parts on a substrate, comprising:

4 a production schedule apparatus for generating a production schedule for a
5 specified electronic item at a specific scheduled time period from inputted production design
6 data and a computer-aided design program data related to the specific electronic item to provide
7 NC data to be used for operating each piece of equipment;

8 a production preparation table of master data for each piece of equipment;

9 a server device for storing NC data and past quality data for production runs of
10 electronic items on the production system; and

11 a NC management apparatus for generating, for each piece of equipment,
12 appropriate NC data to produce a specific electronic item considering the schedule of electronic
13 items to be produced on the production line preceding the scheduled time period including a
14 difference display function unit that compares the most recently produced same type of
15 electronic item NC data stored on the server device with the generated NC data and displays
16 differences between the respective compared NC data including a record of defects recorded
17 with the stored NC data.

1 19. (New) The production system of Claim 18 further including a user input unit to
2 edit the displayed NC data and write edited NC data to the server device for production runs.

1 20. (New) The production system of Claim 19 further including a display unit for
2 displaying each NC data production preparation tables from a current time period to the
3 scheduled time period simultaneously with the generated NC data.

4 21. (New) The production system of Claim 20 wherein the display unit can show the
5 NC data preparation tables in a distinctive predetermined color when necessary NC data is
6 missing.

1 22. (New) The production system of Claim 20 further including a parts library data
2 base and means for generating a parts library common to a series of production runs.